SOUTH LINK

PURPOSE AND NEED

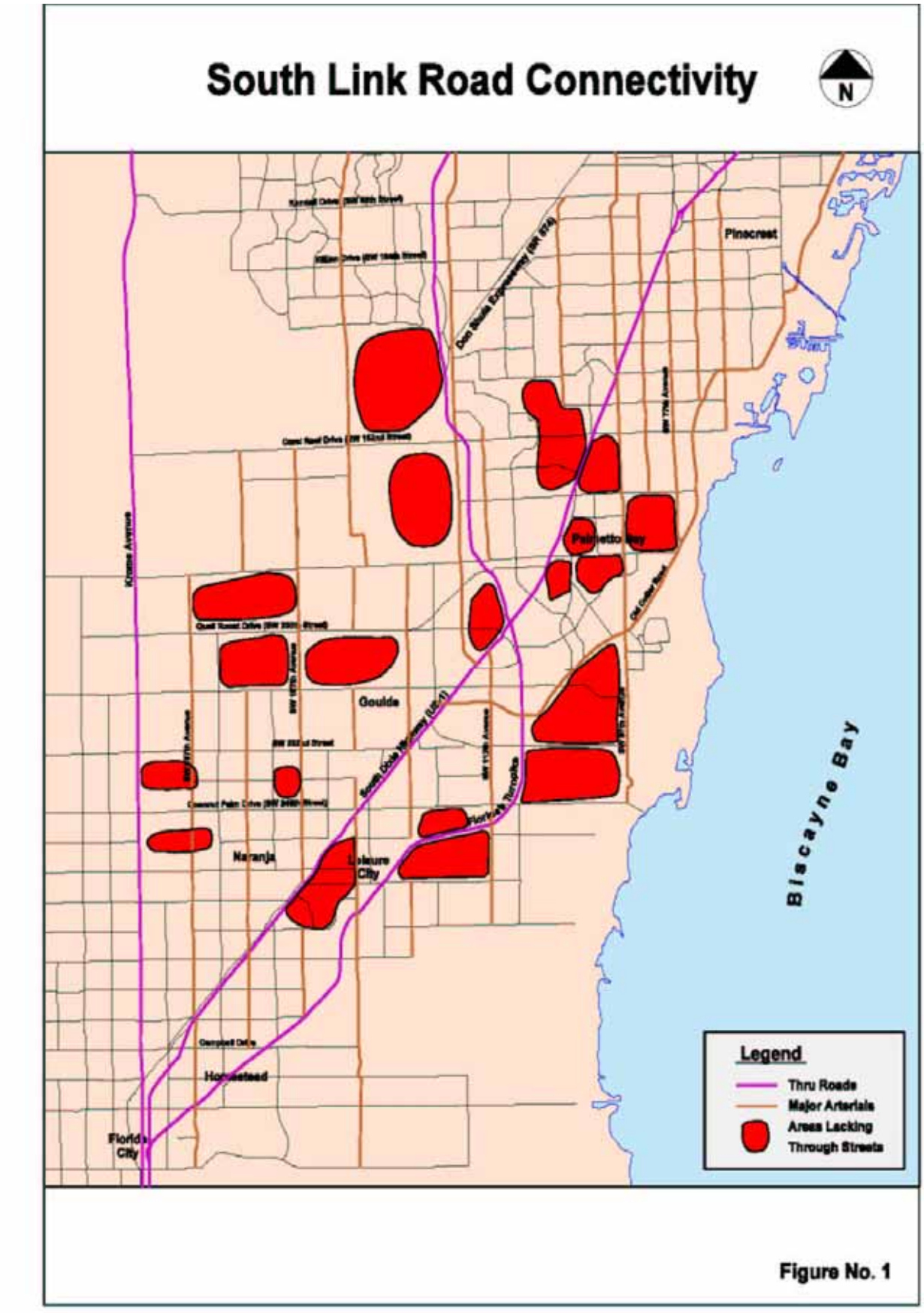
PROJECT PURPOSE

Miami-Dade County will be providing transit improvements in the South Dade Corridor with the intent to broaden the range of transit options within the corridor. Currently, a busway exists along the corridor that ties into the Stage I Metrorail at Dadeland South, which is the northern most boundary of the study area. The busway is operational as far south as SW 112 Ave. and is under-construction from there to SW 312th Street in Florida City. The South Dade Corridor is that area within ½ mile of US 1 between Dadeland South and Florida City. Only fourteen bus routes operate in the southern third of the County and six of them operate on the busway (or will operate on the busway when it is completed.) Three of the routes only operate during peak period. Seven of the routes only operate at 30 minute headways during the peak periods. Three of the routes that operate on the busway have a scheduled average speed of 13 MPH or less. The citizens of south Miami-Dade need a higher quality of transit service.

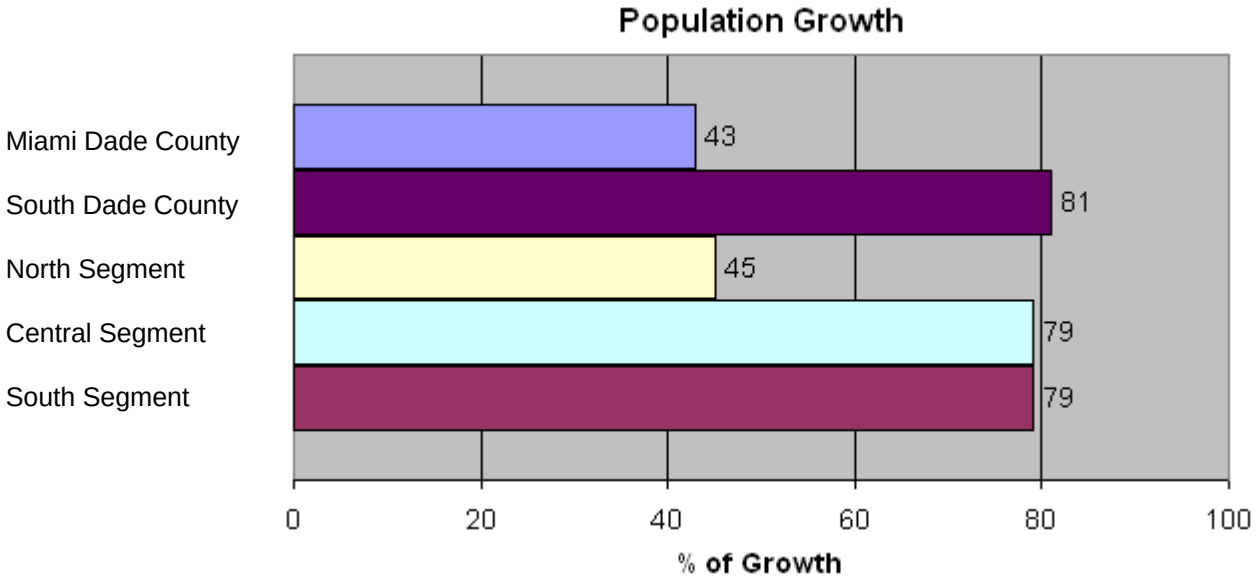
The southern third of Miami-Dade County only has three through, north-south facilities: Krome Avenue along the far western urban boundary, the Homestead Extension of the Florida Turnpike and US 1 (South Dixie Highway). It is unlikely that any additional streets will be developed as through facilities within the next twenty years. South Dixie Highway is the only facility that connects to job rich areas of the County and it can not be expanded because of major adjoining development. The adjacent busway represents the only way of improving mobility between South Dade and downtown Miami. For the purposes of the report South Dade is considered that part of Miami-Dade County south of SW 88th Street (Kendall Drive).

The 2000 US Census indicated that there are 521,000 people living in South Dade. The fourteen routes represent 1 bus route per 37,000 persons. Those fourteen routes put 30 buses per hour into service, which equates to 1 bus per 14,000 persons. Clearly, Miami-Dade County needs to dramatically improve the level of transit service provided in South Dade.

The corridor is below the County average in many of the population indicators of transit ridership. Given the large Black, low income (20% below the poverty level), transit dependent communities in South Dade, transit ridership should be much higher than it is. Improved frequency, improved running times and improved coverage should have a dramatic impact on transit ridership in the corridor. Currently the maximum ridership per hour on the northern half of the corridor is 519 passengers. The maximum load point on the southern half of the busway is 155 passengers per hour. A major purpose of the project is to increase transit ridership in the corridor.

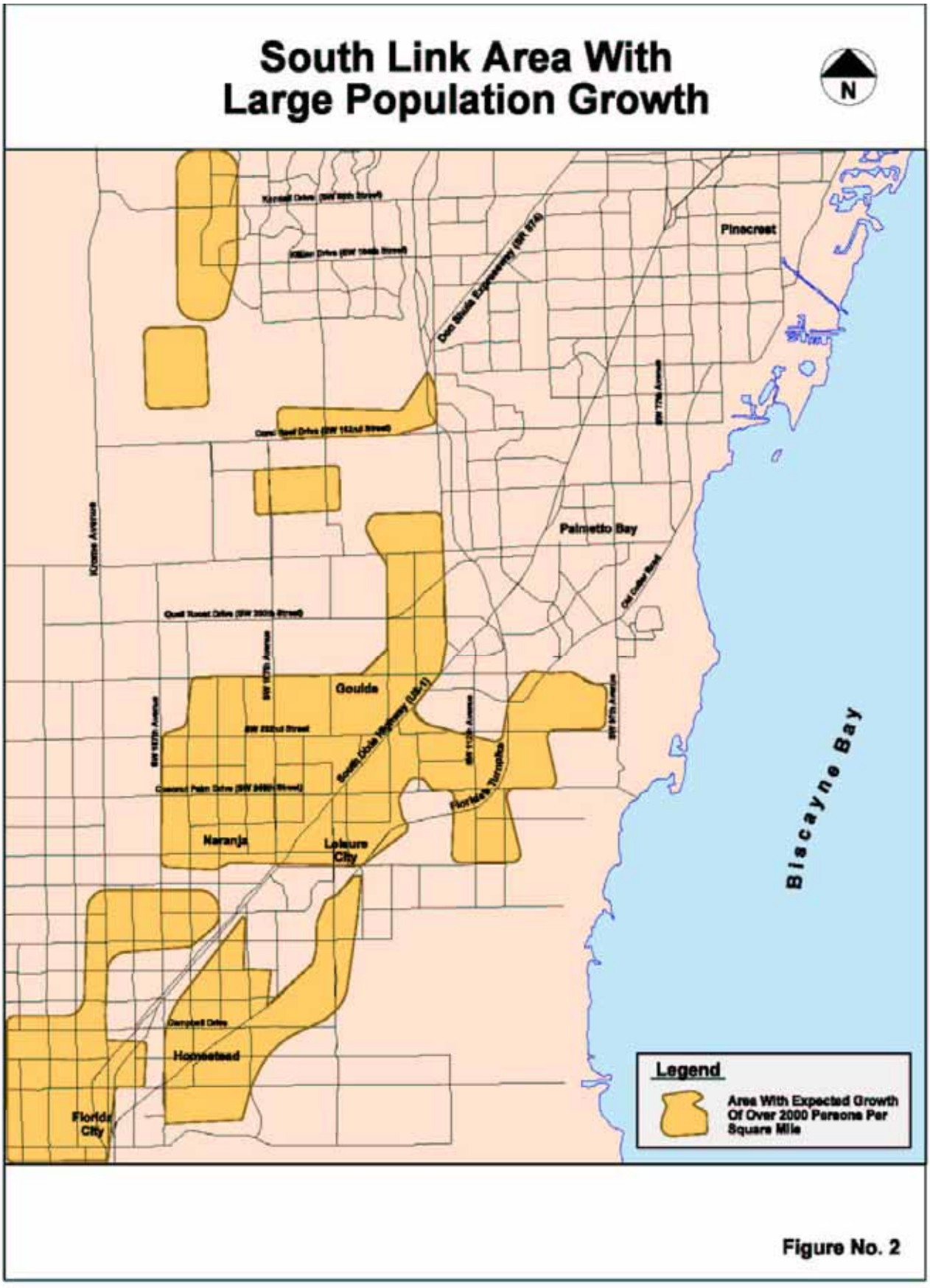

South Link Road Connectivity
N
Pinecrest
Palmetto Bay
Goulds
Naranja
Leisure City
Homestead
Florida City
Biscayne Bay
Legend
Thru Roads
Major Arterials
Areas Lacking Through Streets
Figure No. 1

Miami-Dade County's population is projected to grow by 43% by the year 2030. During this same period the southern third of the County is projected to grow by 81% and the South Link Corridor, which is already urbanized, is projected to grow by 65% by 2030.



Given the lack of north-south arterials and highways in the southern one-third of the County it is critical that transit be prepared to accommodate the growth as it occurs in the corridor.

The 61% growth in population in South Dade is projected to be accompanied by only a 37% increase in employment. Today, South Dade has 28 % of the County's population and only 25% of the jobs. By 2030 South Dade is projected to have 31% of the County's population and only 25% of the jobs. If the quality of life for the residents of South Dade is to be maintained or improved, a high speed, reliable, transit connection between the new residential areas and jobs must be provided. The purpose of this project is to develop a staged program of transit improvements in the corridor that will help bridge the continually widening gap between residential areas and employment concentrations.


South Link Area With
Large Population Growth
N
Pinecrest
Palmetto Bay
Goulds
Naranja
Leisure City
Homestead
Florida City
Biscayne Bay
Legend
Area With Expected Growth Of Over 2000 Persons Per Square Mile
Figure No. 2

The purpose of this project also includes recommendations for the County to modify development patterns in the corridor to enhance transit productivity and to reduce trip lengths in corridor. The County already has a very advanced ordinance that requires Transit Oriented Development around stations in the Metrorail system. Extending the requirements for design reorientation, densification, and pedestrianism to stations along the busway is a critical aspect of this project.

The overriding purpose of this project is to build transit demand for the timely coordinated development of a high capacity transit facility between southern and central Miami-Dade County.

NEED FOR THE PROJECT

Zoning Density

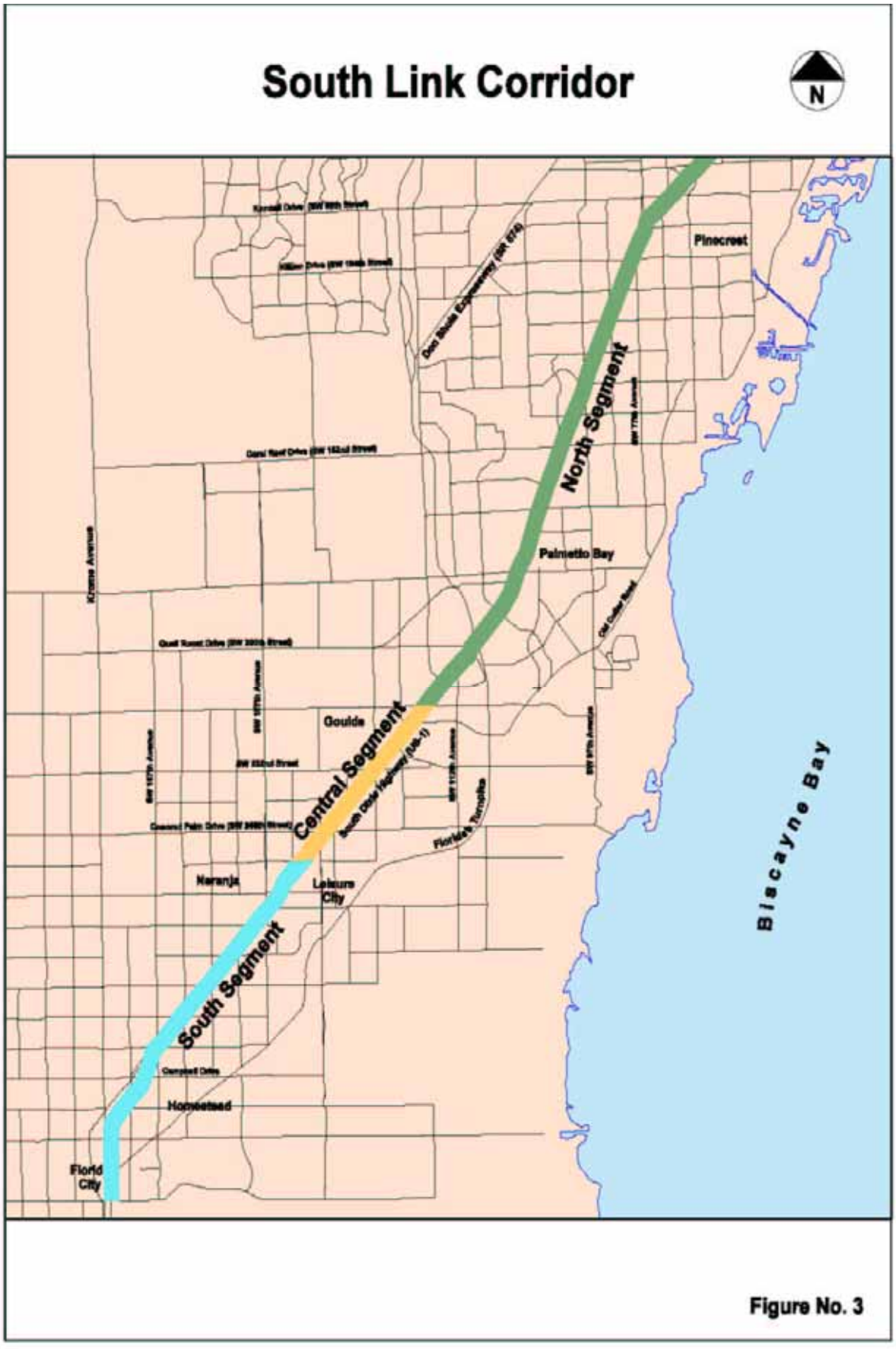
A large portion of the South Miami-Dade is zoned Residential – Estate Density, which allows up to 2.5 dwelling units per acre. Almost all of the land between the coast and the Don Shula Expressway from Kendall Drive (SW 88th Street) to SW 152nd Street has this zoning. It includes all of the Cities of Pinecrest and Palmetto Bay. Only immediately adjacent to US 1 lay areas zoned for commercial low density residential (up to 6 units per acre, low-medium density residential (up to 13 units per acre). Around Dadeland South there is a pocket of land zoned medium high density which allows up to 60 units per acre and around the Falls at SW 136 there is an area zoned medium density allowing up to 25 units per acre. From SW 152nd Street the estate density area continues all the way south, but west of SW 87th Avenue. Within the corridor the majority of the land is zoned low density residential allowing up to 6 units per acre. However, about a third of the land in the corridor is zoned low-medium density to allow up to 12 units per acre.

Constraints on Growth

There are major constraints to growth in South Dade even though South Miami-Dade contains the only reasonably sized parcels of land left for urbanization. The coastal area in South Dade is saltwater mangrove swamp. Likewise the area south of Florida City and Homestead is mangrove swamp giving way to Everglades National Park. The urban development boundary lies only about a mile west of US 1 from SW 232nd Street. There is an agricultural preserve lying between the urban boundary and the Everglades. Also within the general area of the corridor is the former Homestead Air Force Base. The eventual future of the Base property will have a major impact on the future of the corridor. However, there are natural wetlands near the busway that inhibit any future developments in this corridor.

Change in Density

The corridor is 29 square miles. The current population of the corridor is about 143,000 people, which equates to 4,900 people per square mile, or only about 7.6 people per acre. By 2030 the corridor is projected to grow to 237,000 people. This equates to 8,200 people per square mile or about 12.7 people per acres (4 units per acre). Table 1 looks more closely at the corridor, which has been divided into three segments: North Segment (between Dadeland South and SW 216th Street), Central Segment (between SW 216th and 264th Streets), and South Segment (between SW 264th and 344th Street).


South Link Corridor
N
North Segment
Central Segment
South Segment
Pinecrest
Palmetto Bay
Goulds
Naranja
Leisure City
Homestead
Florida City
Biscayne Bay
Figure No. 3

Growth by Segment

	North Segment	Central Segment	South Segment
2000 Population	57,490	38,089	47,830
Population/Sq, Mile	6,114	3,967	4,982
Population /Acre	9.5	6.1	7.7
% Growth	45.5%	78.8%	78.7%
2030 Population	83,613	68,132	85,492
Population/Sq. Mile	8,895	7,097	8,905
Population/Acre	13.7	11.0	13.8

The County's Comprehensive Development Master Plan (CDMP) requires Transit Oriented Development (TOD) around mass transit stations. The CDMP requires the development of activity centers around transit stations and requisite increases in densities for all new development within one-quarter mile of a transit station. The density requirements decline as far out as one-half mile radius from the stations. Areas around the transit stations require concentrations of mixed-use developments with one-half mile, increased building densities, adherence to certain parking criteria, and pedestrian orientation in its design. These standards need to be applied around the busway stations in order to control and direct the growth that is projected to occur in the corridor. To the left, is a picture illustrating some of these standards are already being met around the bus station at SW 200 St/ Caribbean Blvd.

Transportation Disadvantaged

Several factors are usually evaluated when discussing transportation disadvantaged areas and populations. For purposes of this study and to reflect certain unique aspects of the corridor, characteristics not normally considered as identifiers for the Transportation Disadvantaged population have been analyzed. Factors such as "Non-English Speaking," were included because they can affect the likelihood of being employed, and in turn, the trips generated in the corridor. The characteristics that will be used to identify the Transportation Disadvantaged population for this project are discussed below. They include: minority population, disability status, school aged and elderly persons, persons without a high school diploma, persons unable to speak English, households living in poverty, and households without a car. The analysis uses 2000 Census Data for the county and census block group information aggregated for block groups in South Dade and block groups within ½ mile of the US 1 corridor.

Over 2¼ million people reside in Miami-Dade County, with over ½ million people in the southern third of Miami-Dade, and 143,000 along the US 1 corridor in South Dade.

Approximately 30 percent of the county's population classify themselves as a race other than "white", and over 57 percent classify themselves as Hispanic/Latino. For the US 1 corridor, the percentage of the population that is classified non-white (predominately classified as "black" or African American) jumps to over 40 percent, while the Hispanic/Latino percentage drops to 41 percent.

Countywide, the percentage of households with incomes below 1999 poverty levels is approximately 18 percent. In the US 1 corridor area, over 20 percent of the households have incomes below poverty levels; however, in South Dade only 13 percent of households are identified as having incomes below the poverty designation.

The US 1 corridor as compared to Miami-Dade County as a whole has higher or similar levels of transportation disadvantaged persons and households in the majority of criteria evaluated. This corridor has lower percentages than the county of elderly persons and persons not speaking English. Values for the southern third of Miami-Dade occasionally show a lower level of transportation disadvantaged people than the county or the corridor due to the inclusion of more affluent single-family areas such as Pinecrest.

Disadvantaged Groups

	Miami-Dade County	South Dade	US 1 Corridor
Total Population (1,000)	2,253	521	167
Black	30.3%	27.8%	41.3%
Hispanic	57.3%	49.8%	41.5%
Disabled	22.8%	18.5%	22.0%
65 and Older	13.3%	8.7%	8.6%
School Aged	22.3%	24.5%	26.7%
Not English Speaking	8.7%	4.7%	5.8%
Not HS Graduate	32.1%	21.4%	32.3%
HH in Poverty	18.3%	13.0%	20.9%
HH without a Car	14.3%	7.9%	13.4%

Source: US Census Bureau, 2000 Census, Summary File 3

Jobs-Housing Balance

One of the challenges facing the South Dade Corridor is that the number of jobs available is disproportionate to the number of housing units and workers in this area. The result of this situation is that persons within the South Dade area have to travel outside of their region to work, creating an increased strain on already overcapacity facilities. Utilizing Traffic Analysis Zone (TAZ) data from the Miami-Dade County MPO, the ratio of jobs to housing was evaluated for the corridor, the South Dade area, and the remainder of the County.

The corridor is defined as that area within ½ mile on either side of US 1 from the northern limits of the study area (Dadeland South Metrorail station) to the southern terminus in Florida City. For this study, the South Dade area is defined as that portion of Miami-Dade County located south of Kendall Drive. The remainder of the County consists of those areas north of Kendall Drive. For each of these areas, if the boundary, as defined above, touched a TAZ, the entire TAZ was

included in the evaluation. Therefore, the information for the corridor, South Dade, and Downtown includes data for land areas that are just outside the defined boundaries.

In 2000, total employment in the corridor was 72,153 and it is expected to grow by 46.3%, to 105,546 by 2030. Breaking the corridor into northern, central and southern sectors shows that more significant growth in employment is expected in the southern portion, which is predicted to grow by 79.0%. For the entire corridor, the employment sector projected to experience the most growth is the commercial sector, which is predicted to grow by 62.7%. The number of workers in the corridor is projected to grow at a rate similar to commercial employment (65.7%), and the number of workers in 2030 will be slightly higher than the number of jobs available (128,626). Both the central and southern sectors of the corridor will experience greater growth in the number of workers than the northern sector.

Housing in the corridor will experience growth similar to commercial employment, with a projected 62.0% increase from 47,284 to 76,600 households by 2030. More significant growth in housing is expected in the central and southern portions of the corridor, with projected 80.1% and 73.0% increases, respectively. Examining the ratios (employment to housing; workers to housing; and workers to employment), one explanation is that workers have to travel outside of the corridor for their jobs, and that this trend will continue and grow in 2030. The numbers indicate that in 2000, there were approximately 9,000 more workers than jobs in the corridor. In 2030, the number of workers will exceed jobs by roughly 10,000.

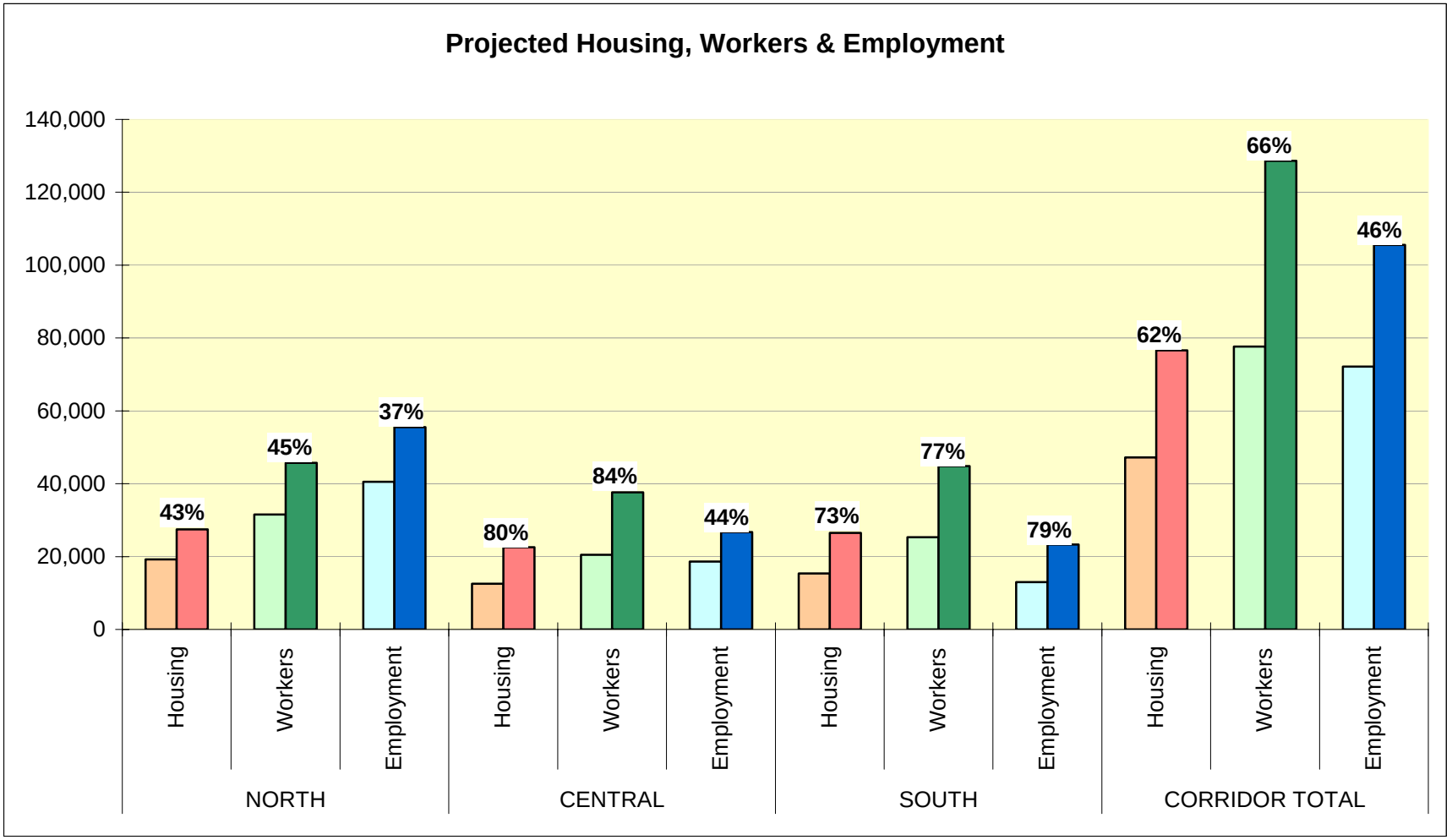
Projected Housing, Workers and Employment in the Corridor

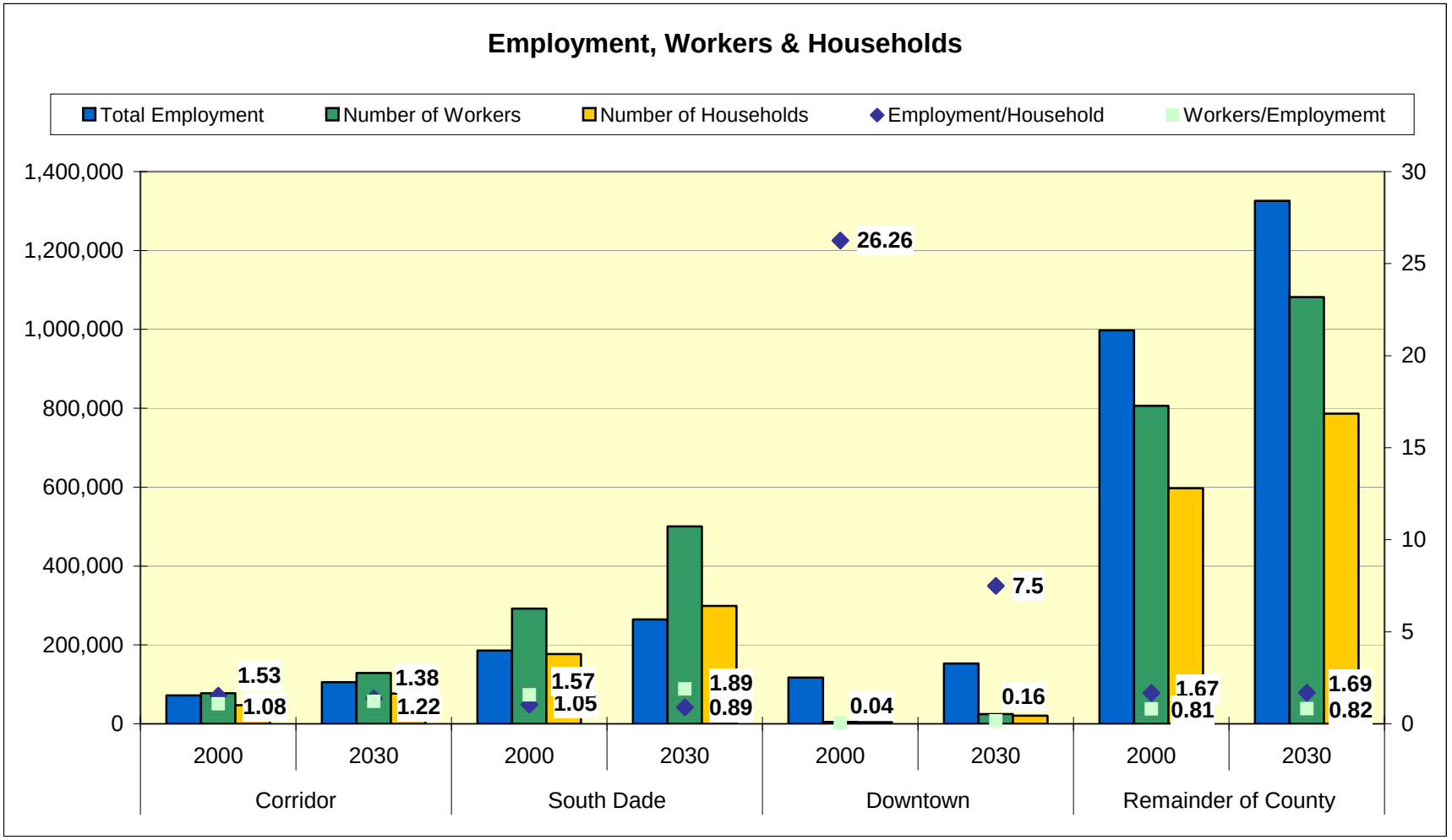
	2000	2030	Percent Change
NORTH			
Housing	19,226	27,495	43.0%
Workers	31,513	45,748	45.2%
Employment	40,503	55,519	37.1%
CENTRAL			
Housing	12,543	22,590	80.1%
Workers	20,504	37,663	83.7%
Employment	18,649	26,752	43.5%
SOUTH			
Housing	15,334	26,515	73.0%
Workers	25,323	44,826	77.0%
Employment	13,001	23,275	79.0%
CORRIDOR TOTAL			
Housing	47,248	76,600	62.0%
Workers	77,642	128,626	65.7%
Employment	72,153	105,546	46.3%

South Dade is relatively similar to the corridor in regards to employment, workers and housing. There were 177,157 households in 2000, and this number is expected to grow to 298,779, a 68.7% increase, by 2030. The average household size is 3.0 persons per household. The number of workers is expected to increase by 71.3% from 292,080 in 2000 to 500,357 in 2030. Employment is projected to grow 42.6% from 185,516 to 264,584. As with the corridor, the largest growth is projected to occur in the commercial employment sector. The ratio of employment to housing is lower for South Dade, with only one job available for each household. However, similar to the corridor, this ratio will drop slightly in 2030, from 1.1 to 0.9, reflecting the slower growth projected to occur in employment versus housing. The number of workers available in relation to jobs will increase from 1.6 to 1.9, indicating that by 2030 close to 250,000 people in the South Dade area will have to travel outside of this area for work. Given that US 1 is the major north-south arterial in this area, providing the most direct connection to Downtown, it can be expected that a majority of these 250,000 people will travel in the corridor.

The remainder of the County has an employment to housing ratio that is slightly higher than the corridor and a worker to employment ratio that is roughly half the ratio for the corridor or South Dade. Projected employment growth is approximately 33% and projected housing growth is 31.6%. The number of workers available is less than the number of jobs, indicating that people will have to travel into the northern part of the county from other areas to fill all the jobs. The average household size is 2.8, the employment to housing ratio is 1.6, and the worker to housing ratio is 1.4.

The projected trends for the corridor, South Dade and Downtown indicate that housing and worker growth will outpace the growth in employment. The opposite is true for the remainder of the County, where employment and worker growth will slightly outpace housing growth. The result is that persons residing in the corridor and South Dade will have to travel outside of the area to find employment.


Projected Housing, Workers & Employment
140,000
120,000
100,000
80,000
60,000
40,000
20,000
0
43%
45%
37%
80%
84%
44%
73%
77%
79%
62%
66%
46%
Housing
Workers
Employment
NORTH
CENTRAL
SOUTH
CORRIDOR TOTAL
2000
2030
Percent Change


Employment, Workers & Households
Total Employment
Number of Workers
Number of Households
Employment/Household
Workers/Employmemt
1,400,000
1,200,000
1,000,000
800,000
600,000
400,000
200,000
0
30
25
20
15
10
5
0
26.26
7.5
1.53
1.08
1.38
1.22
1.57
1.05
1.89
0.89
0.04
0.16
1.67
0.81
1.69
0.82
2000
2030
2000
2030
2000
2030
2000
2030
Corridor
South Dade
Downtown
Remainder of County

	Corridor			South Dade			Downtown			Remainder of County		
	2000	2030	% Change	2000	2030	% Change	2000	2030	% Change	2000	2030	% Change
Total Employment	72,153	105,546	46.3%	185,516	264,584	42.6%	116,950	152,794	30.7%	997,765	1,325,653	32.9%
Industrial	5,067	4,756	-6.1%	20,029	20,019	-0.1%	3,340	3,059	-8.4%	102,891	100,781	-2.0%
Commercial	33,215	54,056	62.7%	58,543	101,226	73.0%	9,700	15,061	55.3%	255,132	396,944	55.6%
Service	33,873	46,734	37.9%	106,950	143,289	34.0%	103,907	134,624	29.0%	639,742	827,928	29.4%
Number of Workers	77,642	128,626	65.7%	292,080	500,357	71.3%	5,079	24,601	384.4%	806,474	1,081,931	34.2%
Workers/ Employment	1.08	1.22	--	1.57	1.89	--	0.04	0.16	--	0.81	0.82	--
Number of Households	47,284	76,600	62.0%	177,157	298,779	68.7%	4,453	20,349	357.0%	597,182	786,111	31.6%
Persons/ Household	3.03	3.12	--	3.04	3.08	--	2.46	2.52	--	2.80	2.83	--
Workers/ Household	1.64	1.68	--	1.65	1.67	--	1.14	1.21	--	1.35	1.38	--
Employment/ Household	1.53	1.38	--	1.05	0.89	--	26.26	7.5	--	1.67	1.69	--

Traffic

The development pattern that has been described above has already created a strong north-south commuting pattern. Traffic volumes increase steadily from south to north. The northern portion of the corridor currently experiences some of the regions worst traffic congestions, constraining economic opportunities and residents' quality of life. The Florida Department of Transportation (FDOT) recorded an average annual daily traffic volume of 94,000 vehicles along US 1 south of Dadeland in 2003. This volume far exceeds the published capacity guidelines for a six-lane urban arterial.

According to FDOT traffic count data along the corridor, US 1 capacity has been saturated for approximately 20 years. Increased travel demand has been met through transportation system management (TSM) improvements such as removing turning movements and signal timing adjustments that heavily favor the flow along US 1 to the detriment of the intersecting roadways. Increases in travel demand strains the capacity of the existing network, causing delays and increased travel times between activity centers within the corridor and the region. The following table shows the growth over the last ten years in the corridor.

Traffic Growth

US 1 Intersection	1994 AADT	2003 AADT	% growth
SR 826	90,000	94,000	4.44%
SW 152nd Street	61,000	74,000	21.31%
SW 288th Street	28,000	32,500	16.07%
SW 328th Street	11,800	30,000	154.24%

The US 1 corridor has reached its limits for widening. Right-of-way, financial, environmental, social, and political constraints have historically limited both the development of new north-south facilities and the substantial expansion of existing facilities. Currently planned roadway improvements are minor in nature and will only provide local congestion relief. Existing levels of service (LOS) in the corridor are generally "F" and are anticipated to further degrade in the future. According to FDOT District Six "Level of Service Inventory", over 60% of the length of US 1 from Dadeland South to Homestead is currently operating at LOS F. In addition approximately 90% of the corridor currently exhibits a volume-to-service volume (V/SV) ratio of 0.90 or higher, with the entire segment of US 1 north of the Turnpike junctions exhibiting V/SV ratios in excess of 1.50.

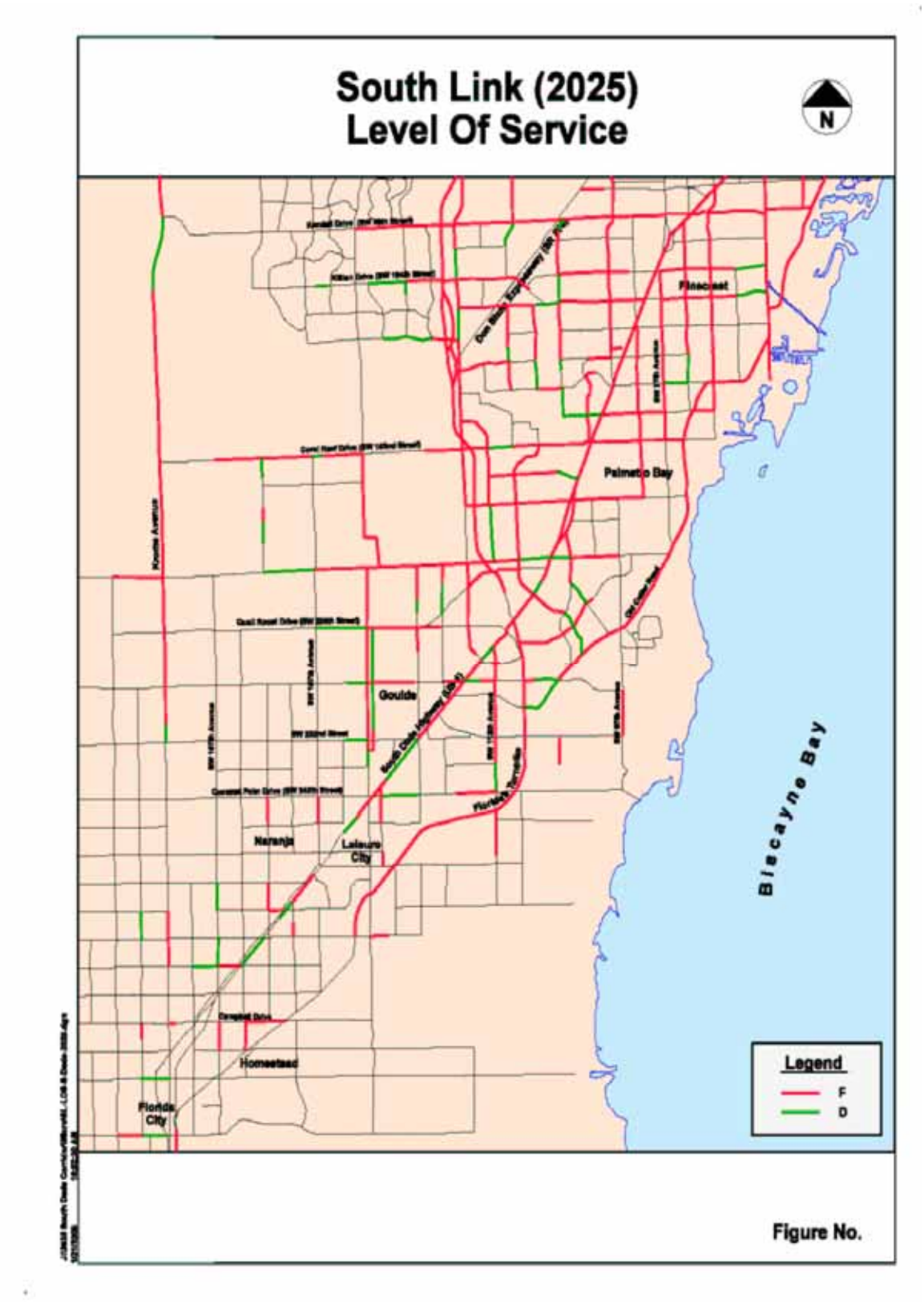
Only Krome Avenue and the Florida Turnpike extend all of the way north and south across southern Miami-Dade County. Krome Avenue is a two lane rural facility running along the western urban boundary. It is heavily used by trucks to the agricultural uses along Krome Avenue. The Florida Turnpike is a 4-lane limited access facility that is

heavily used by commuters in the western half of the urban area. Much of the Turnpike is over capacity in the peak directions. The only other street that extends through very much of South Dade is Old Cutler, a two lane road that runs entirely through residential areas between SW 242nd Street and Coconut Grove. The entire stretch of Old Cutler Road is over capacity.

None of the other north-south facilities are continuous. The following table and charts show the extent and the future level of service for the other arterials in South Dade.

Projected Level of Service

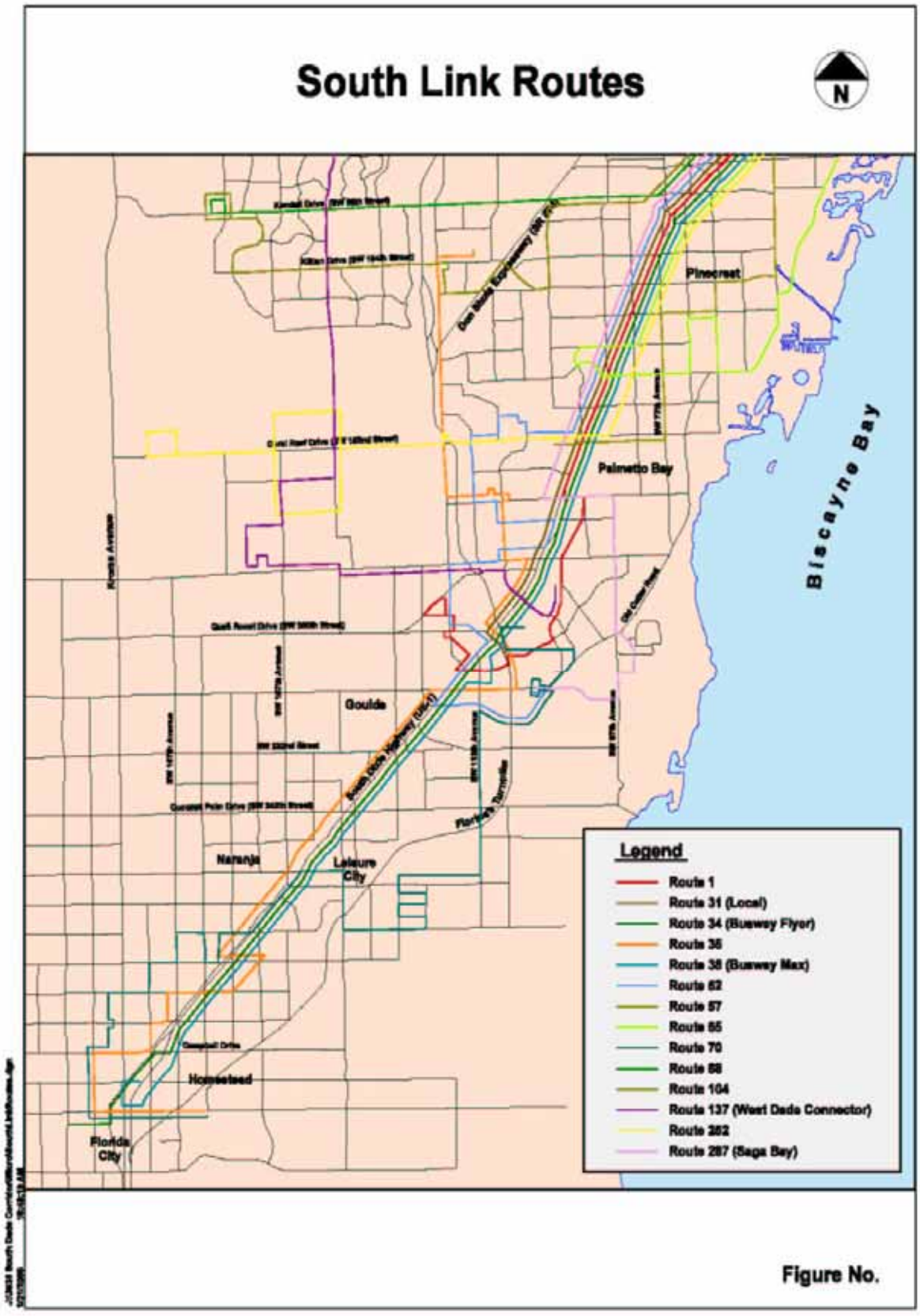
Roadway	Limits	LOS Limits	LOS
SW 67th Ave.	Sunset to Old Cutler	Sunset to Kendall	F
		Kendall to SW 132 St.	F
		SW 132 St to Old Cutler	C
SW 77th Ave.	SW 104 St. to SW 152 St.	SW 104 to SW 112 St.	F
		SW 112 to SW132 St.	F
		SW 132 to SW 152 St	C
SW 82 Ave.	SW 120 St. to SW 168 St.	SW 120 to SW 124 St.	C
		SW 124 to SW 132 St	F
		SW 132. to SW 152 St	D
		SW 152 to SW 168 St	F
SW 87 Ave	US 1 to SR 874	US 1 to SR 874	F
	SW 140 to SW 162 St.	SW 140 to SW 162 St.	C
	SW 168 to Old Cutler	SW 168 to Old Cutler	C
SW 97 Ave	Kendall to SW 144 St.	Kendall to SW 128 St	F
		SW 128 to SW 144 St	C
	US 1 to Old Cutler	US 1 to Old Cutler	C
SW 117 Ave	Kendall Dr. to US 1	Kendall to SW 152 St	C
		SW 152 to SW 168 St.	F
		SW 168 to US 1	C
SW 137 Ave	Kendall Dr. to SW 152 St.	Kendall to SW 152 St.	C
		SW 152 to SW 168 St	D
		SW 164 to SW 184 St.	F


South Link (2025)
Level Of Service
N
Palmetto Bay
Goulds
Naranja
Leisure City
Homestead
Florida City
Biscayne Bay
Legend
F
D
Figure No.

Quality of Transit Services

In the South Dade region of Miami-Dade County, Miami-Dade Transit (MDT) operates 14 public transit routes. These routes offer 15-30 minute peak-period headways, and 30-60 minute off-peak-period and weekend headways. Services are generally offered between 5:30 am and 11:00 pm on weekdays with reduced service on the weekends. Service improvements are planned in the People's Transportation Plan (PTP) through 2007.

Looking at the southern portion of Miami-Dade County, the greatest coverage of transit services exists in the Kendall, Pinecrest, Cutler Ridge, and Homestead neighborhoods. Areas with less service coverage include Richmond Heights, Goulds, Naranja, and Florida City, mainly marked by an absence of service on the west side of South Dixie Highway between 200th St. and 280th St. On the existing length of the busway, two routes operate between the Southland Mall and 168th St., four routes operate to 152nd St. and seven routes operate north to the Dadeland South Metrorail station. South of the existing busway to Florida City, three routes currently provide service. Once the southern extension of the busway is operational, two enhanced busway routes and two new feeder routes in the PTP would supplement service in this area, and provide better coverage for both Goulds and Florida City.


South Link Routes
N
Pinecrest
Palmetto Bay
Biscayne Bay
Goulds
Naranja
Leisure City
Homestead
Florida City
Legend
Route 1
Route 31 (Local)
Route 34 (Busway Flyer)
Route 35
Route 38 (Busway Max)
Route 52
Route 57
Route 65
Route 70
Route 88
Route 104
Route 137 (West Dade Connector)
Route 252
Route 287 (Saga Bay)
Figure No.

Accessibility of Services

Pedestrian accessibility on the busway is limited to the west side of the corridor, with crosswalks linking patrons to stops on the east side. Overall access to these pedestrian facilities from the adjacent South Dixie Highway corridor and other cross-streets is limited to major intersections, where sidewalks on the east side of South Dixie Highway and cross-streets are linked with sidewalks on the west side of the busway. The area that lies between the busway and South Dixie Highway consists mainly of a low-lying drainage ditch. No pedestrian facilities exist either on the west side of South Dixie Highway or on the east side of the busway, nor are there any mid-block pedestrian crossings to allow for connection between South Dixie Highway to the busway. The LRTP designates the entire length of the South Dade corridor as a Greenway facility, which would include improvements for bicycles and pedestrians adjacent to the transit facility. This picture illustrates accessibility problems to these bus stations. Not only do pedestrians need to jaywalk across US1, but they also need to cross a drainage ditch within the center median to get to this bus station. This picture illustrates the SW 117th Street station.

Busway Safety

The busway provides a partial solution to the automobile travel, but it is hampered by cross traffic and operational and safety constraints. The busway is a two-way, two-lane, bus-only roadway approximately 8 miles long that was constructed in a former rail right-of-way adjacent to US 1. The busway's close proximity to US 1 caused operational and safety problems for transit vehicles, automobiles, and pedestrians. Priority pre-emptive signals for the busway were initially installed, but were eliminated due to safety concerns after several accidents following its opening in 1997. The loss of priority pre-emptive has significantly reduced the anticipated travel time savings, especially for the express bus service.